2092220 "60E2800T

FIG. 1

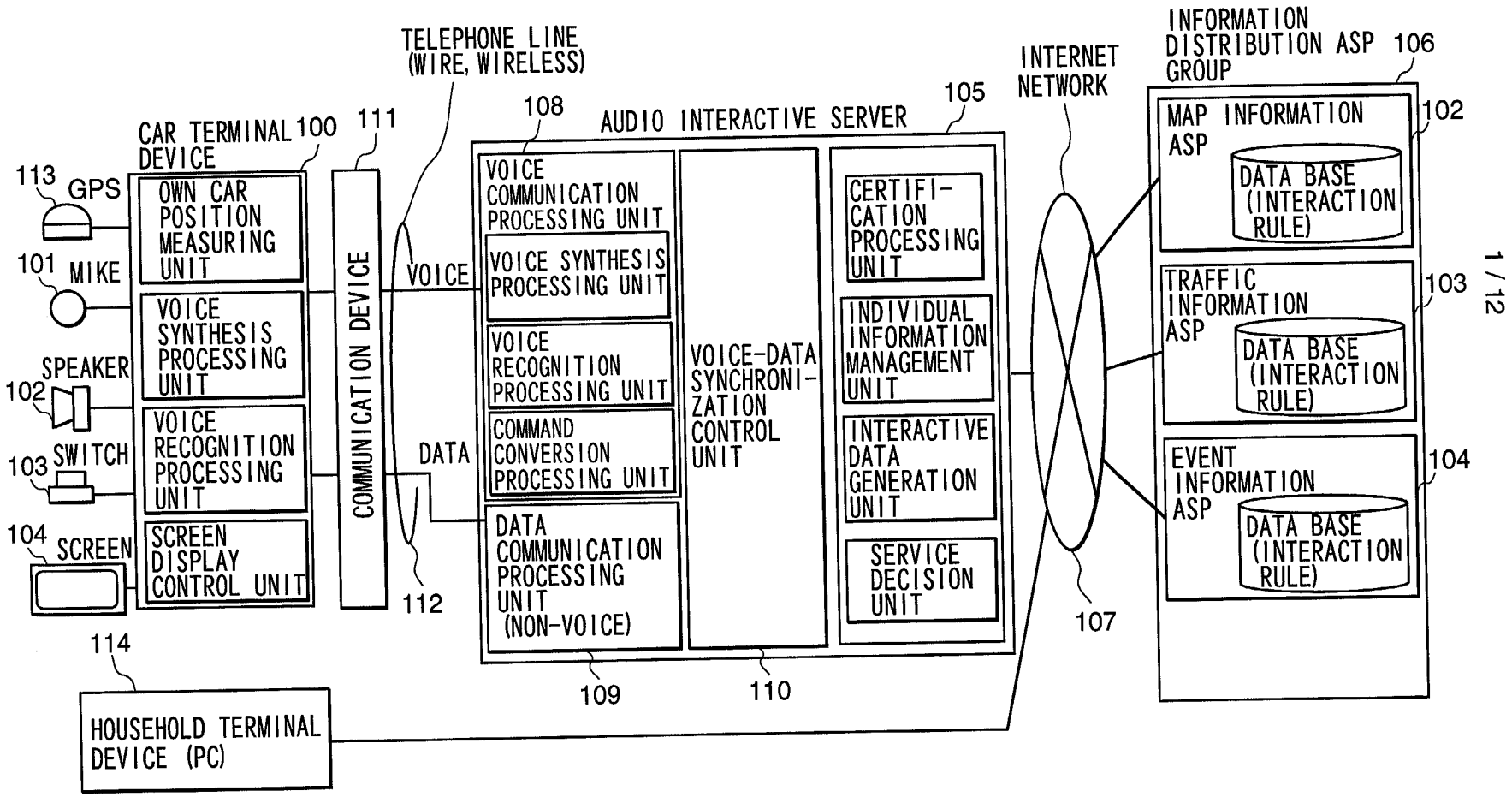


FIG. 2

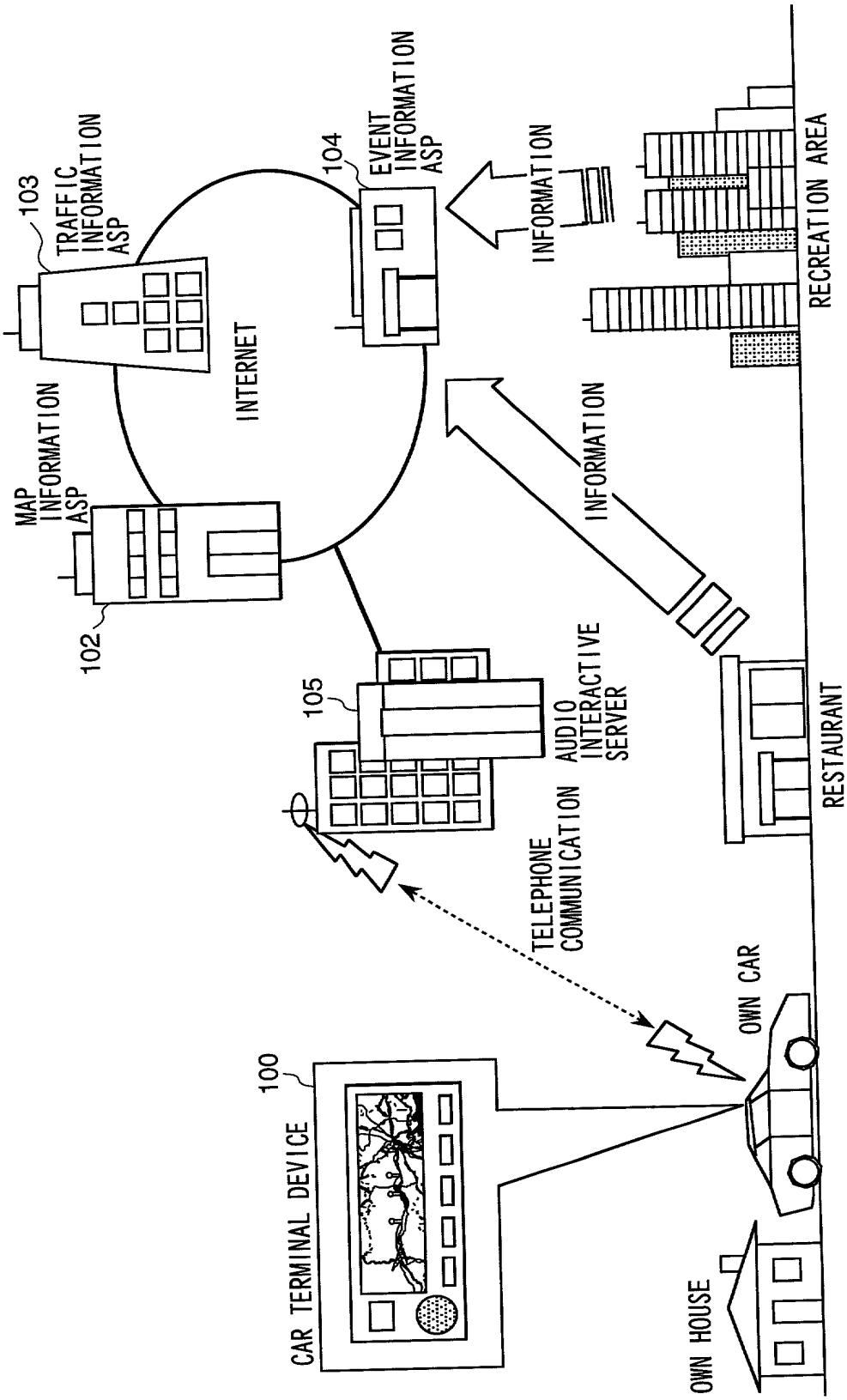

100
CAR TERMINAL DEVICE
OWN CAR
OWN HOUSE
TELEPHONE COMMUNICATION
105
AUDIO INTERACTIVE SERVER
102
MAP INFORMATION ASP
INTERNET
103
TRAFFIC INFORMATION ASP
104
EVENT INFORMATION ASP
INFORMATION
INFORMATION
RESTAURANT
RECREATION AREA

FIG. 3

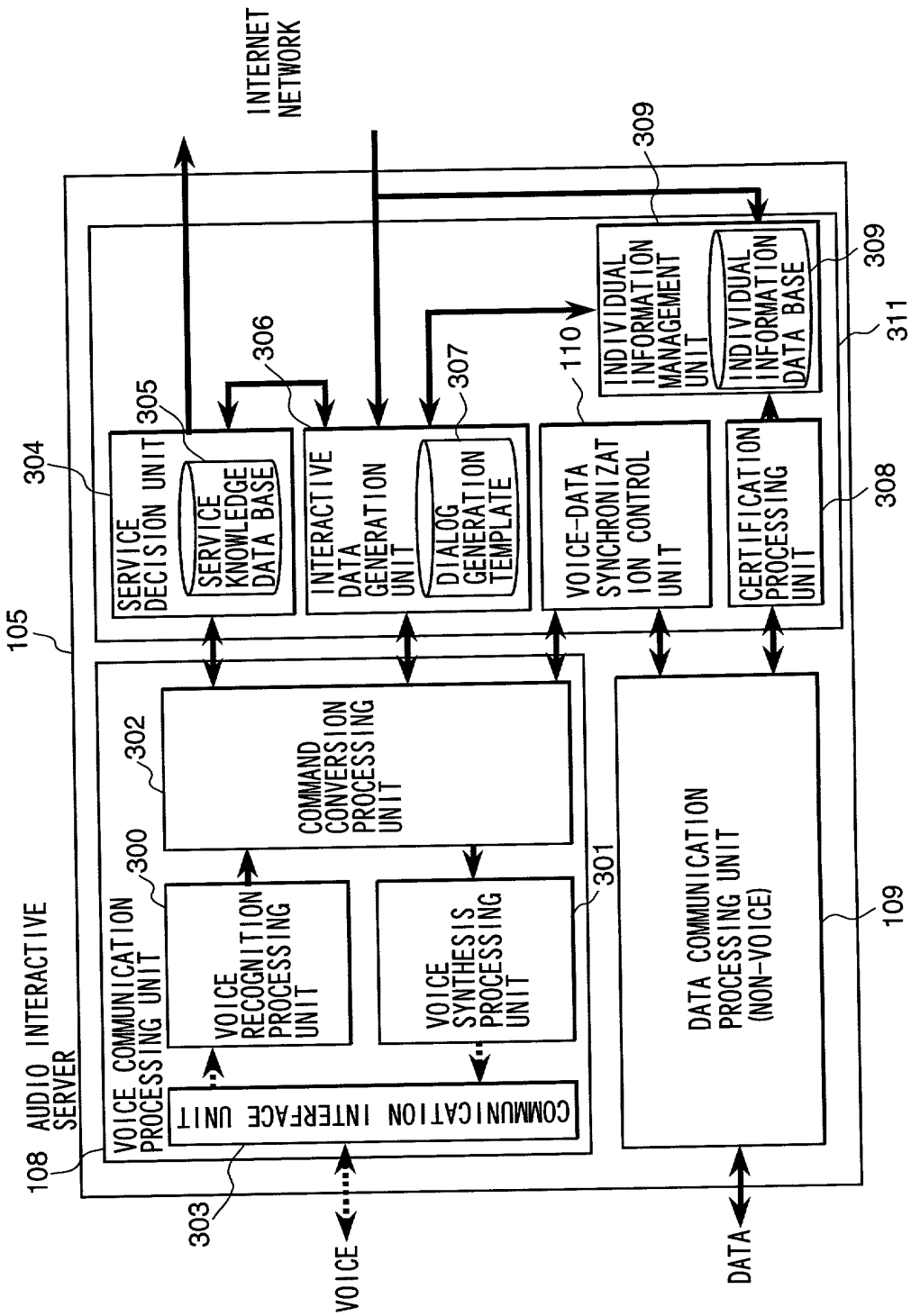

INTERNET NETWORK
309
309
311
306
307
110
305
304
SERVICE DECISION UNIT
SERVICE KNOWLEDGE DATA BASE
INTERACTIVE DATA GENERATION UNIT
DIALOG GENERATION TEMPLATE
VOICE-DATA SYNCHRONIZATION CONTROL UNIT
INDIVIDUAL INFORMATION MANAGEMENT UNIT
INDIVIDUAL INFORMATION DATA BASE
CERTIFICATION PROCESSING UNIT
308
105
302
COMMAND CONVERSION PROCESSING UNIT
300
VOICE RECOGNITION PROCESSING UNIT
301
VOICE SYNTHESIS PROCESSING UNIT
DATA COMMUNICATION PROCESSING UNIT (NON-VOICE)
109
108 AUDIO INTERACTIVE SERVER
VOICE COMMUNICATION PROCESSING UNIT
COMMUNICATION INTERFACE UNIT
303
VOICE
DATA

FIG. 4

401

```
<?xml verslon="1.0"?>
<vxml version="1.0">
 <form>
  <field name="where1">
   <prompt>
        %first_message_to_user%
   </prompt>
   <grammer src="%grammer%" type="application/x-isgf" />
  </field>
   </block>
    <submit next="%URL%" />
   </block>
 </form>
</vxml>
```

402

```
EXAMPLE OF CHARACTER STRING EMBEDDING (LOCATION DESIGNATED):
<?xml verslon="1.0"?>
<vxml version="1.0">
 <form>
  <field name="where1">
   <prompt>
        TO WHAT PLACE DO YOU GO?
   </prompt>
   <grammer src="where.gram" type="application/x-isgf" />
  </field>
   </block>
    <submit next="http://www.dra.example/where2.asp" />
   </block>
 </form>
</vxml>
```

```
INTERACTION EXECUTION EXAMPLE:
  COMPUTER:TO WHAT PLACE DO YOU GO?
  HUMAN:A PARK
  COMPUTER:NOT UNDERSTOOD
  COMPUTER:TO WHAT PLACE DO YOU GO?
  HUMAN:A PARK
  COMPUTER:(GO TO http://www.dra.example/where2.asp)
```

FIG. 5

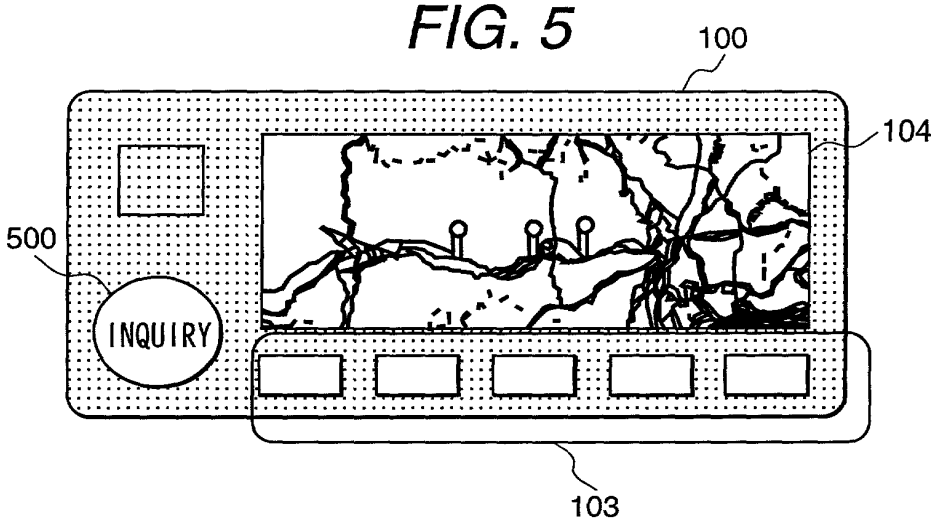
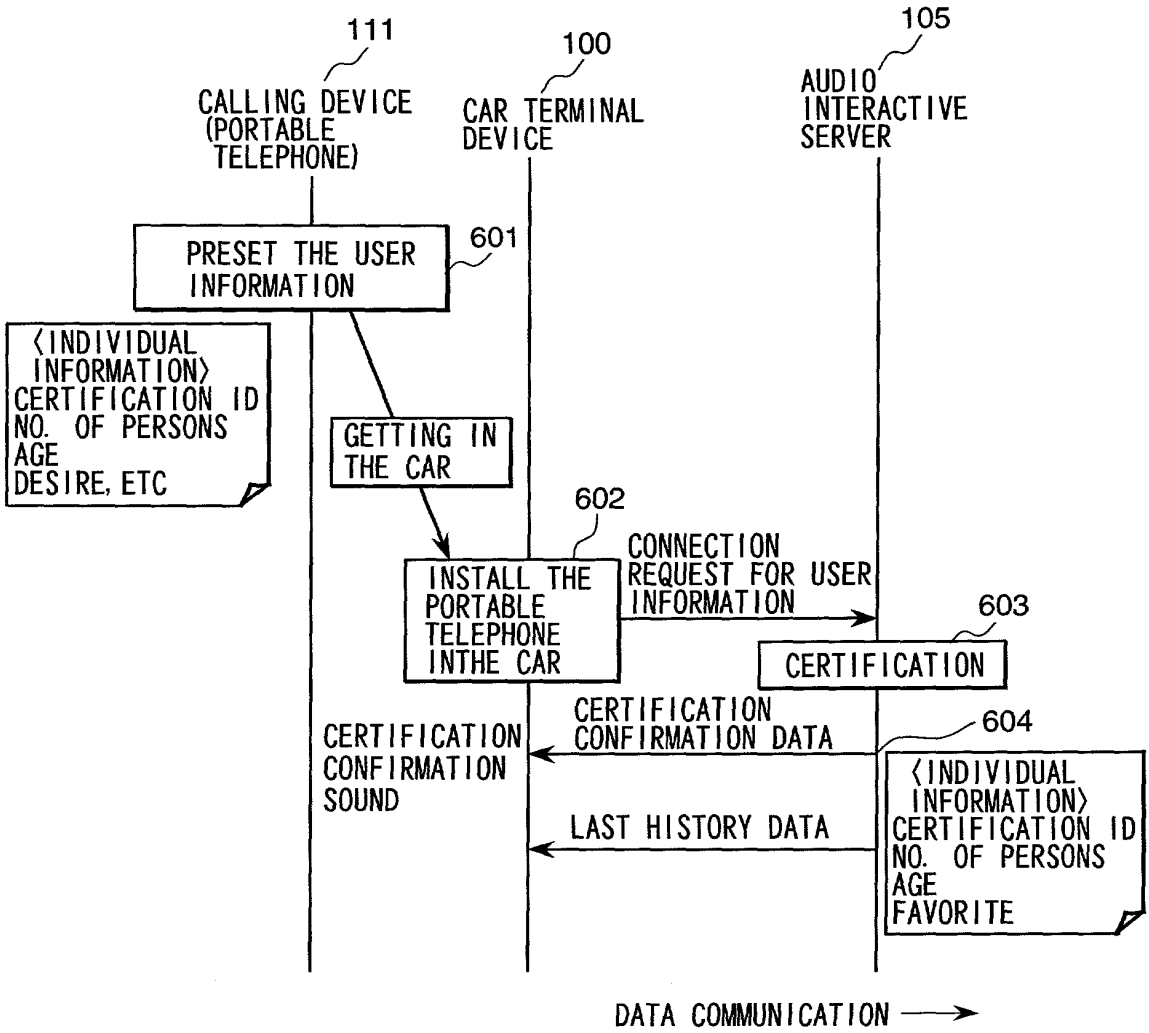


FIG. 6



JP2003-022502

FIG. 7

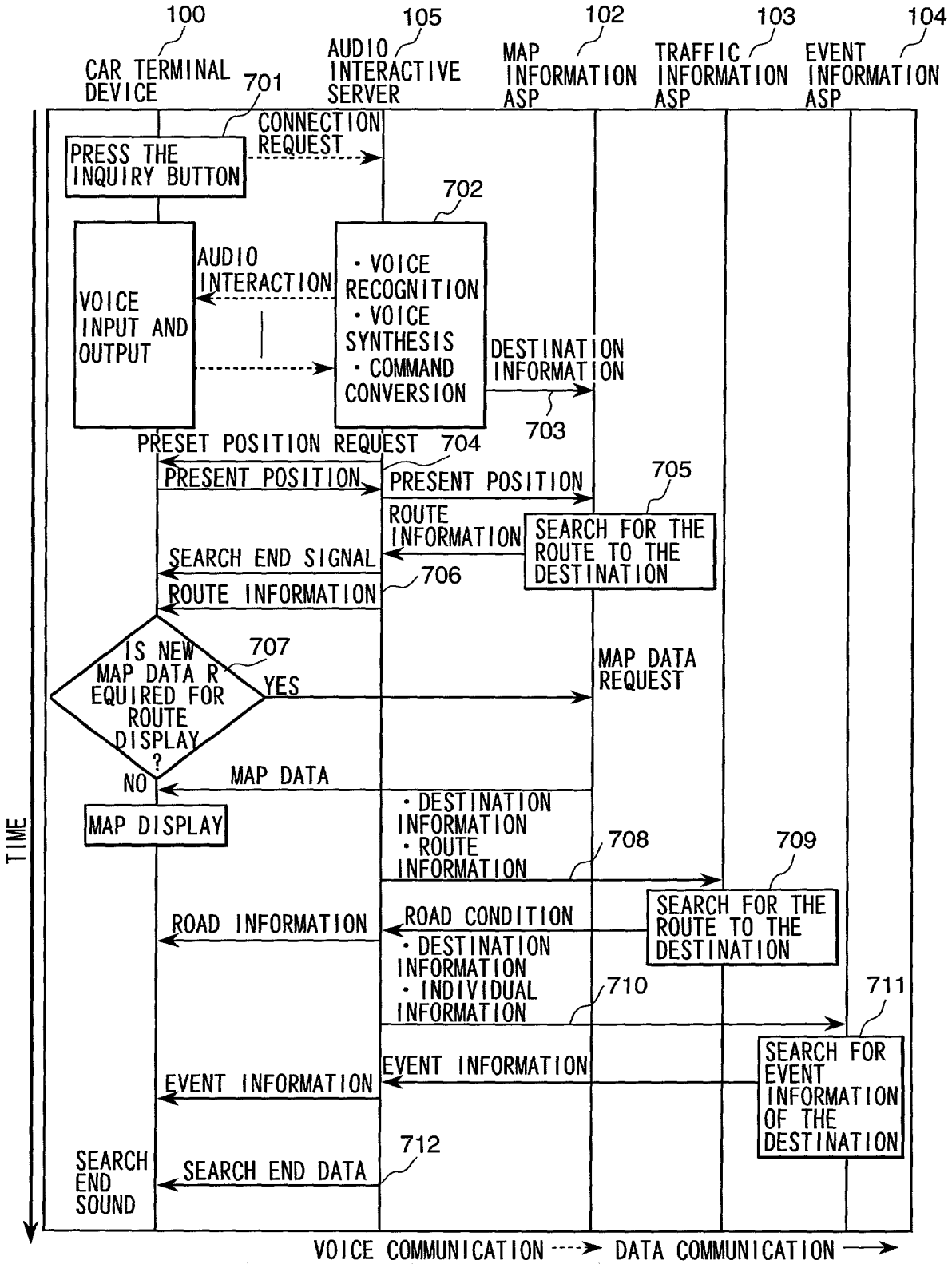

100
CAR TERMINAL DEVICE
105
AUDIO INTERACTIVE SERVER
102
MAP INFORMATION ASP
103
TRAFFIC INFORMATION ASP
104
EVENT INFORMATION ASP
701
PRESS THE INQUIRY BUTTON
CONNECTION REQUEST
702
VOICE INPUT AND OUTPUT
AUDIO INTERACTION
・VOICE RECOGNITION ・VOICE SYNTHESIS ・COMMAND CONVERSION
DESTINATION INFORMATION
703
PRESET POSITION REQUEST
704
PRESENT POSITION
PRESENT POSITION
705
ROUTE INFORMATION
SEARCH FOR THE ROUTE TO THE DESTINATION
SEARCH END SIGNAL
706
ROUTE INFORMATION
IS NEW MAP DATA REQUIRED FOR ROUTE DISPLAY ?
707
YES
MAP DATA REQUEST
NO
MAP DATA
MAP DISPLAY
・DESTINATION INFORMATION ・ROUTE INFORMATION
708
709
ROAD INFORMATION
ROAD CONDITION
SEARCH FOR THE ROUTE TO THE DESTINATION
・DESTINATION INFORMATION ・INDIVIDUAL INFORMATION
710
711
EVENT INFORMATION
EVENT INFORMATION
SEARCH FOR EVENT INFORMATION OF THE DESTINATION
712
SEARCH END SOUND
SEARCH END DATA
TIME
VOICE COMMUNICATION
DATA COMMUNICATION

FIG. 8

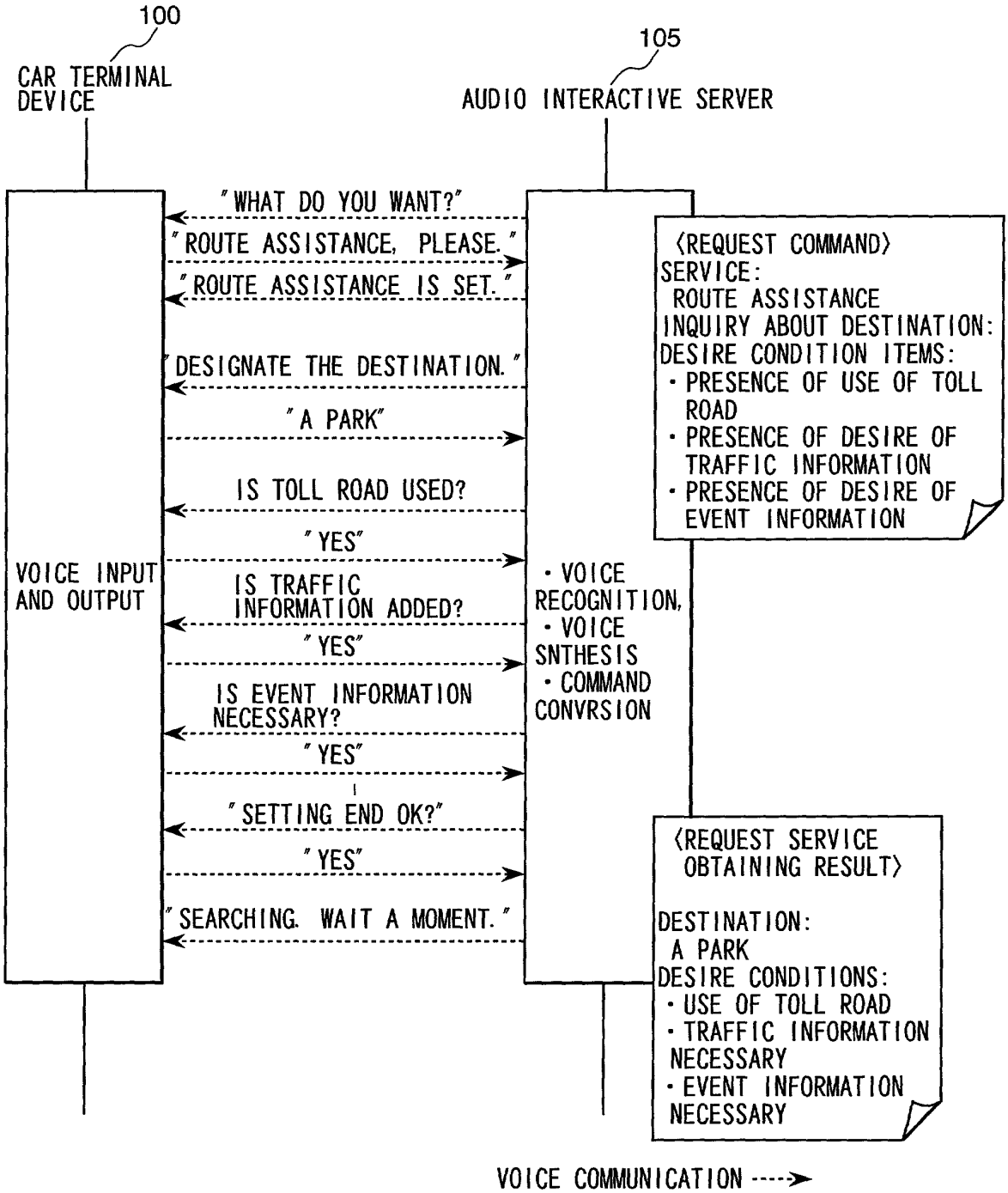


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FIG. 9

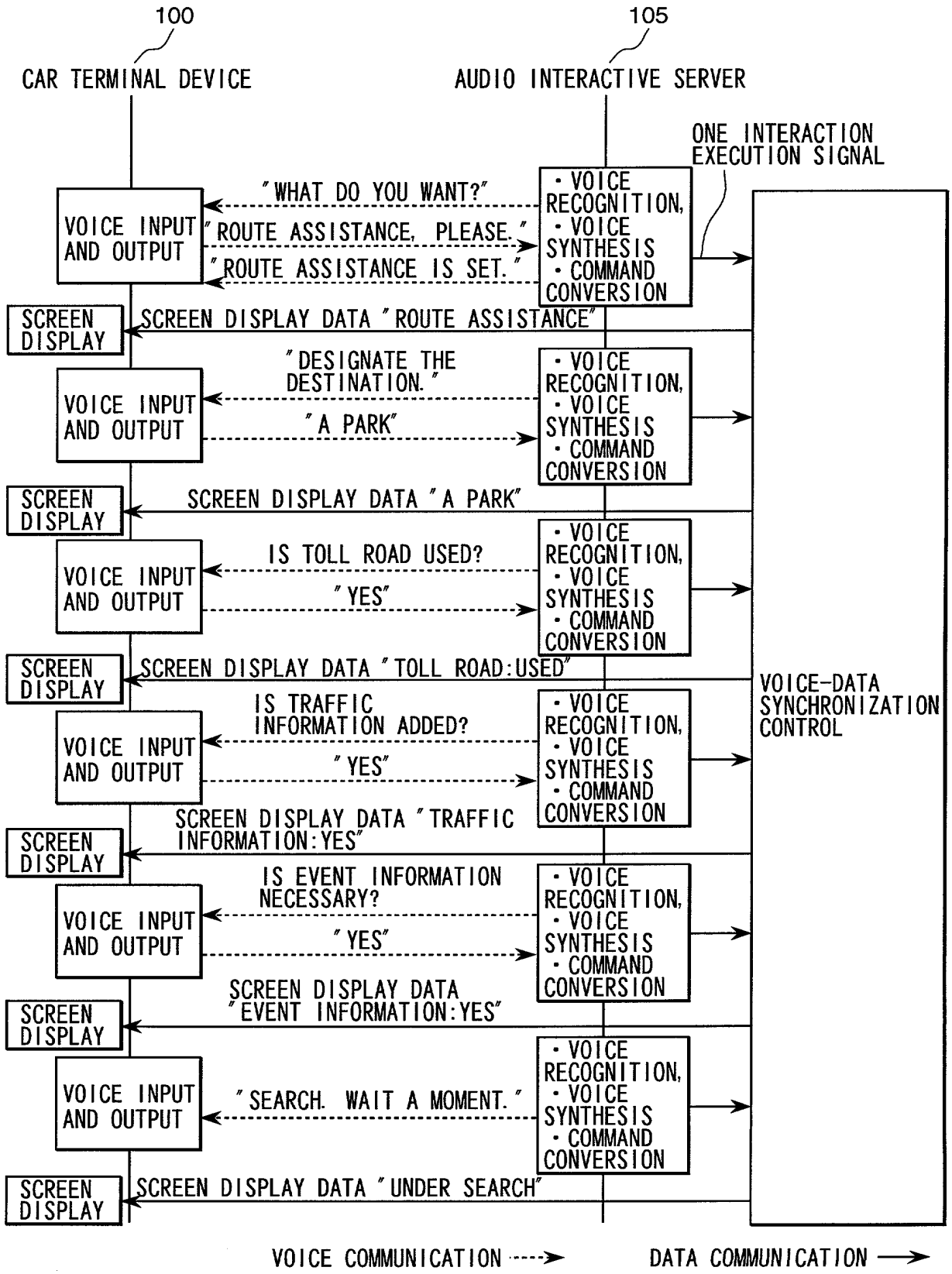
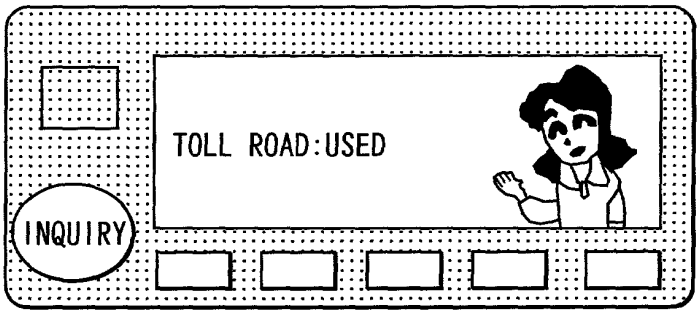

100
CAR TERMINAL DEVICE
105
AUDIO INTERACTIVE SERVER
ONE INTERACTION EXECUTION SIGNAL
VOICE INPUT AND OUTPUT
"WHAT DO YOU WANT?"
"ROUTE ASSISTANCE, PLEASE."
"ROUTE ASSISTANCE IS SET."
・VOICE RECOGNITION, ・VOICE SYNTHESIS ・COMMAND CONVERSION
SCREEN DISPLAY
SCREEN DISPLAY DATA "ROUTE ASSISTANCE"
"DESIGNATE THE DESTINATION."
"A PARK"
SCREEN DISPLAY DATA "A PARK"
IS TOLL ROAD USED?
"YES"
SCREEN DISPLAY DATA "TOLL ROAD:USED"
IS TRAFFIC INFORMATION ADDED?
SCREEN DISPLAY DATA "TRAFFIC INFORMATION:YES"
IS EVENT INFORMATION NECESSARY?
SCREEN DISPLAY DATA "EVENT INFORMATION:YES"
"SEARCH. WAIT A MOMENT."
SCREEN DISPLAY DATA "UNDER SEARCH"
VOICE-DATA SYNCHRONIZATION CONTROL
VOICE COMMUNICATION
DATA COMMUNICATION

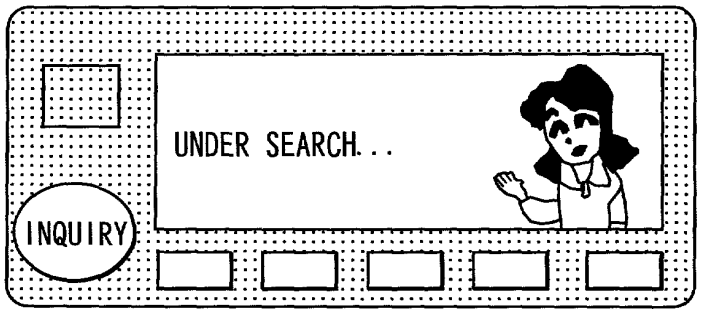
FIG. 10

SCREEN DISPLAY DATA "PARK A"



SCREEN DISPLAY DATA "TOLL ROAD:USED"

SCREEN DISPLAY DATA "SEARCH COMPLETION"



SCREEN DISPLAY DATA "UNDER SEARCH..."

2005-12-29 15:23:00.7

FIG. 11

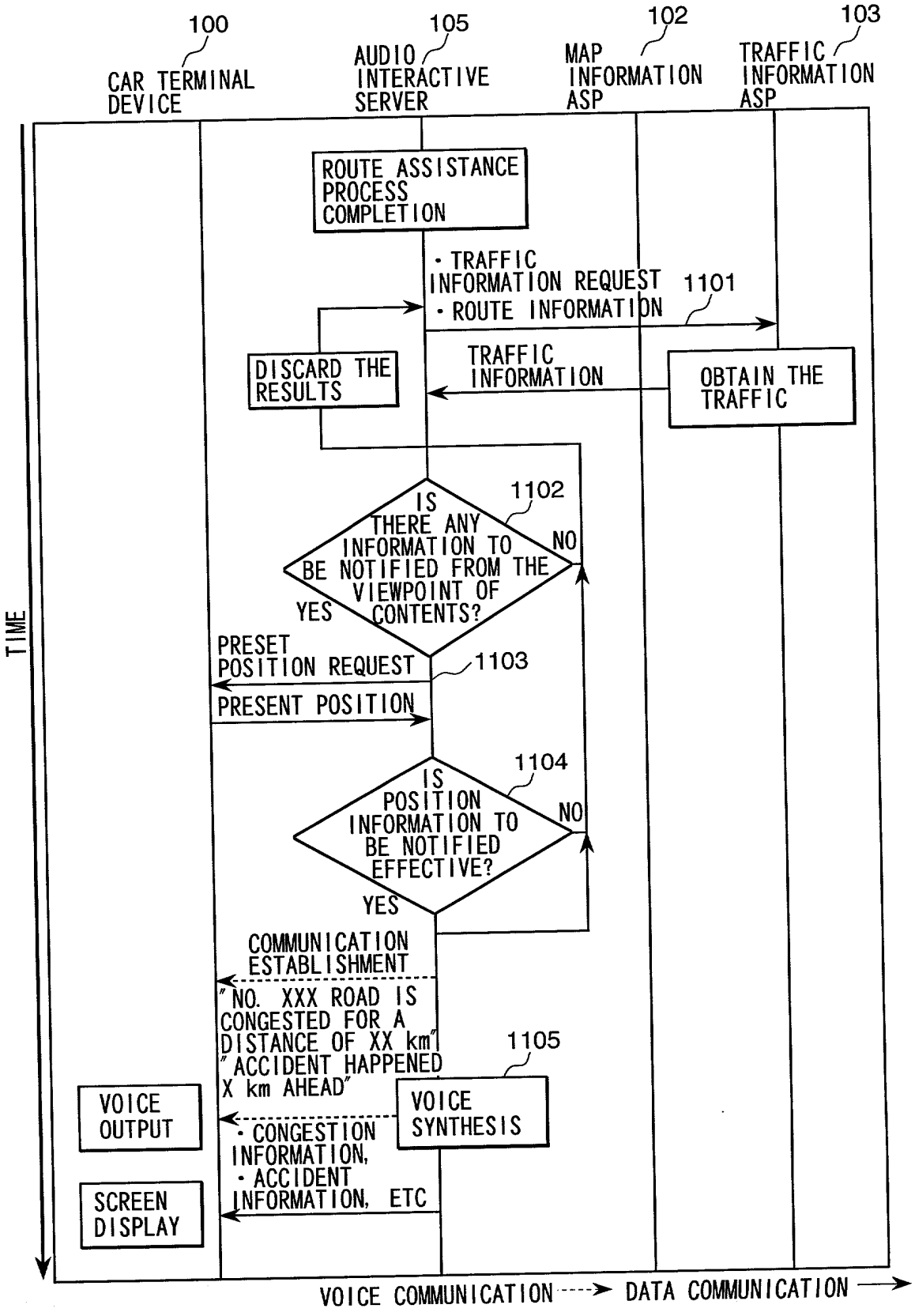

100
CAR TERMINAL DEVICE
105
AUDIO INTERACTIVE SERVER
102
MAP INFORMATION ASP
103
TRAFFIC INFORMATION ASP
TIME
ROUTE ASSISTANCE PROCESS COMPLETION
・TRAFFIC INFORMATION REQUEST
・ROUTE INFORMATION
1101
DISCARD THE RESULTS
TRAFFIC INFORMATION
OBTAIN THE TRAFFIC
1102
IS THERE ANY INFORMATION TO BE NOTIFIED FROM THE VIEWPOINT OF CONTENTS?
NO
YES
PRESET POSITION REQUEST
1103
PRESENT POSITION
1104
IS POSITION INFORMATION TO BE NOTIFIED EFFECTIVE?
NO
YES
COMMUNICATION ESTABLISHMENT
"NO. XXX ROAD IS CONGESTED FOR A DISTANCE OF XX km"
"ACCIDENT HAPPENED X km AHEAD"
1105
VOICE SYNTHESIS
VOICE OUTPUT
・CONGESTION INFORMATION,
・ACCIDENT INFORMATION, ETC
SCREEN DISPLAY
VOICE COMMUNICATION
DATA COMMUNICATION

FIG. 12

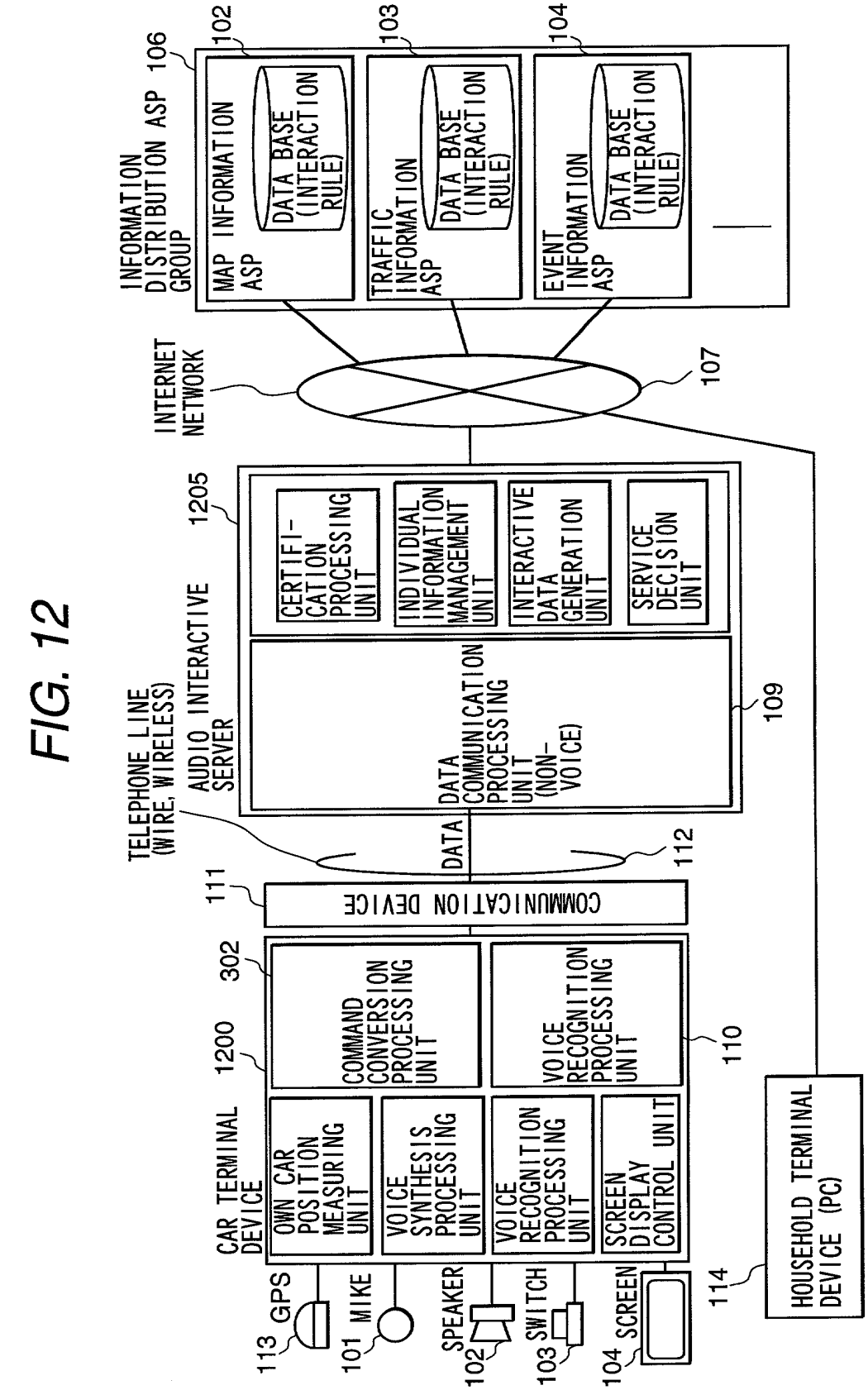
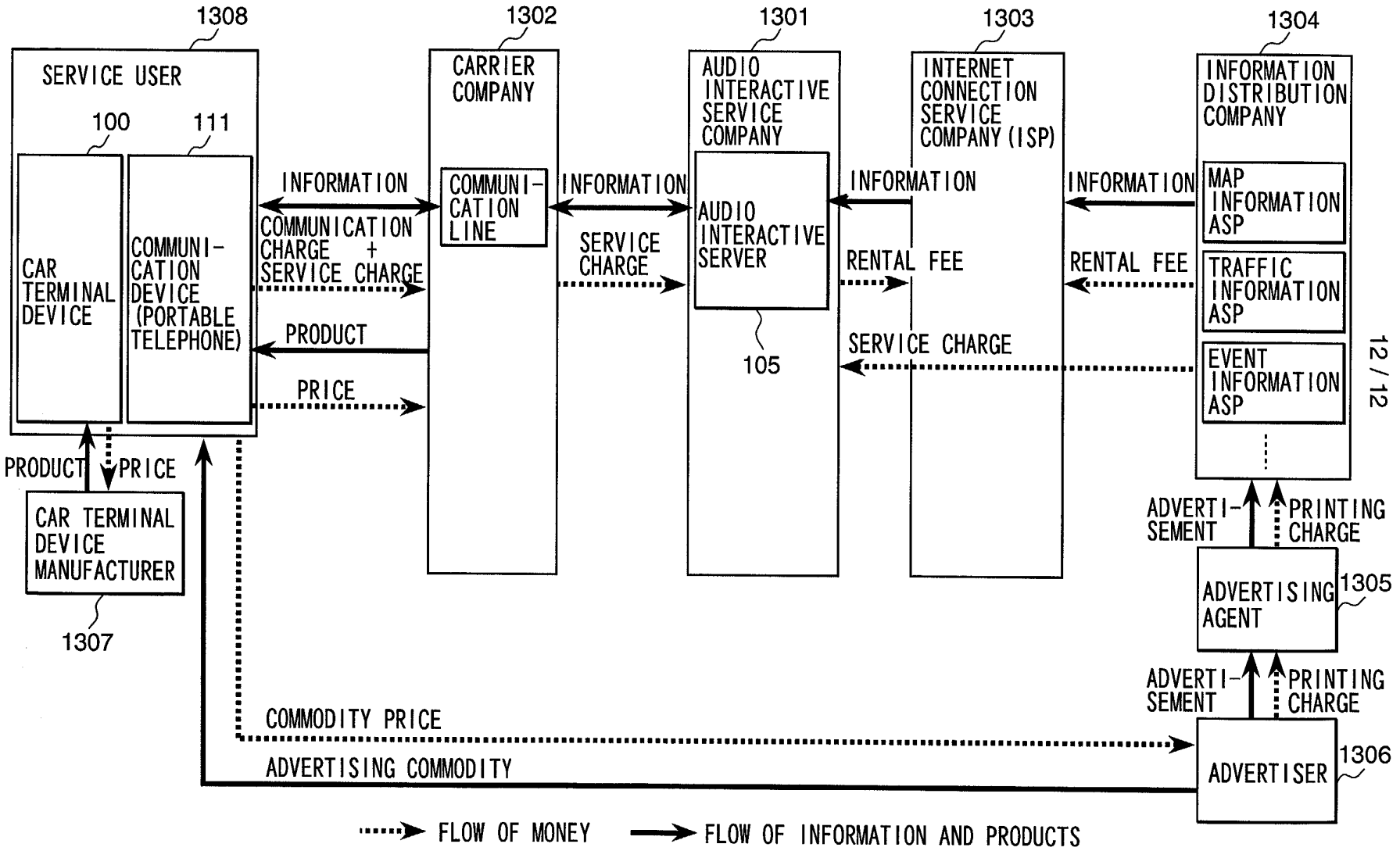

INFORMATION DISTRIBUTION GROUP
106
MAP INFORMATION ASP
102
DATA BASE (INTERACTION RULE)
TRAFFIC INFORMATION ASP
103
DATA BASE (INTERACTION RULE)
EVENT INFORMATION ASP
104
DATA BASE (INTERACTION RULE)
INTERNET NETWORK
107
AUDIO INTERACTIVE SERVER
1205
CERTIFI-CATION PROCESSING UNIT
INDIVIDUAL INFORMATION MANAGEMENT UNIT
INTERACTIVE DATA GENERATION UNIT
SERVICE DECISION UNIT
DATA COMMUNICATION PROCESSING UNIT (NON-VOICE)
109
TELEPHONE LINE (WIRE, WIRELESS)
DATA
112
111
COMMUNICATION DEVICE
CAR TERMINAL DEVICE
1200
302
OWN CAR POSITION MEASURING UNIT
COMMAND CONVERSION PROCESSING UNIT
VOICE SYNTHESIS PROCESSING UNIT
VOICE RECOGNITION PROCESSING UNIT
SCREEN DISPLAY CONTROL UNIT
VOICE RECOGNITION PROCESSING UNIT
110
113 GPS
101 MIKE
SPEAKER 102
103 SWITCH
104 SCREEN
114
HOUSEHOLD TERMINAL DEVICE (PC)

FIG. 13


1308
SERVICE USER
100
111
CAR TERMINAL DEVICE
COMMUNI-CATION DEVICE (PORTABLE TELEPHONE)
1302
CARRIER COMPANY
COMMUNI-CATION LINE
1301
AUDIO INTERACTIVE SERVICE COMPANY
AUDIO INTERACTIVE SERVER
105
1303
INTERNET CONNECTION SERVICE COMPANY (ISP)
1304
INFORMATION DISTRIBUTION COMPANY
MAP INFORMATION ASP
TRAFFIC INFORMATION ASP
EVENT INFORMATION ASP
INFORMATION
COMMUNICATION CHARGE + SERVICE CHARGE
PRODUCT
PRICE
INFORMATION
SERVICE CHARGE
INFORMATION
RENTAL FEE
SERVICE CHARGE
INFORMATION
RENTAL FEE
PRODUCT
PRICE
CAR TERMINAL DEVICE MANUFACTURER
1307
ADVERTI-SEMENT
PRINTING CHARGE
ADVERTISING AGENT
1305
ADVERTI-SEMENT
PRINTING CHARGE
COMMODITY PRICE
ADVERTISING COMMODITY
ADVERTISER
1306
FLOW OF MONEY
FLOW OF INFORMATION AND PRODUCTS